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Filed : June 11, 1999

AMENDMENTS TO THE CLAIMS

1-88 (Cancelled)

89. (Currently Amended) A multi-reaction site assay plate structure comprising:
an upper substantially planar, rigid surface and a lower closely spaced[[.]]
opposed and substantially planar, rigid surface, said upper and lower surfaces defining a
space therebetween, the lower surface having a plurality of separate reaction sites, the
reaction sites being treated to increase the hydrophilicity thereof, and the lower surface
being treated to increase the hydrophobicity of the surface other than at said reaction
sites;

at least one first opening in one of said upper and lower surfaces providing access
to said space for introduction of fluid thereto from an external location, the spacing
between said upper and lower surfaces being sufficiently small to facilitate the flow of
said fluid in said space by capillary action ~~of a fluid introduced into said space through~~
~~said opening~~ to substantially fill the space and cover all of the sites, the sites being such
that when excess fluid is subsequently withdrawn through ~~the one or another~~said at least
one first opening some of said liquid fluid is left at said sites; and

encoded information stored in at least one of said upper and lower surfaces so as
to be readable by a scanned light beam, said encoded information including address
information providing location information as to the part of said assay plate structure
dise-being scanned by the light beam.

90. (Previously Presented) The assay plate structure of claim 89 wherein the spacing
is less than 1mm.

91. (Previously Presented) The assay plate structure of claim 89 wherein the spacing
is less than 0.5mm.

92. (Currently Amended) The assay plate structure of claim 89 wherein said at least
one first opening for introduceing a fluid is provided is configured to receive the end of a liquid
injecting device, and said at least one first opening forms a substantially air-tight seal around said
end.

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93. (Currently Amended) The assay plate structure of claim 89 wherein the multi-well-reaction site structure is a disc which includes upper and lower circular plates, the internal surfaces of which respectively define said upper and lower opposed surfaces.

94. (Currently Amended) The assay plate structure of claim 93 wherein a further comprising at least one second opening is provided located at the peripheral edge of the disc.

95. (Currently Amended) The assay plate structure of claim 94 wherein the space between the upper and lower plates-surfaces is subdivided, by one or more dividing walls, to provide a plurality of spaces, each space being provided with a fluid introduction opening at least one of said first openings and a vent opening at least one of said second openings to enable each space to be independently filled.

96. (Previously Presented) The assay plate structure of claim 93 wherein at least one of the upper and lower plates forming the structure are transparent to enable optical inspection of the sites from outside the structure.

97. (Previously Presented) The assay plate structure of claim 96 wherein the other of the upper and lower plates includes a reflecting surface for providing improved signal detection.

98. (Previously Presented) The assay plate structure of claim 89 wherein the plate structure is provided in the form of a disc and said encoded information is digitally encoded.

99. (Currently Amended) The assay plate structure of claim 98 wherein at least a portion of the plate structure is transparent for optical inspection of said wellsreaction sites.

100-104. (Cancelled)

105. (Currently Amended) An optically transparent dise-structure for conducting assays said structure comprising:

one or more chambers, each having an upper substantially planar, rigid surface and a lower closely spaced opposed and substantially planar, rigid surface, said upper and lower surfaces defining a space therebetween, and at least one of said upper and lower surfaces having at least one first opening for introduction of fluid therethrough into said one or more chambers, the lower surface having a plurality of surface locations bearing a hydrophilic coating, the spacing between said upper and lower surfaces being provided to facilitate fluid flow by capillary action of a fluid introduced into said space through

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said at least one first opening to cover all of the locations bearing a hydrophilic coating; and

encoded information stored in at least one of said upper and lower surfaces so as to be readable by a scanned light beam, said ~~encloded~~-encoded information including address information providing location information as to the part of said ~~disc~~-structure being scanned by the light beam for at least one of said plurality of surface locations.

106. (Cancelled)

107. (Previously Presented) The structure of claim 105 wherein areas of said lower surface between said locations include hydrophobic coatings.

108. (Previously Presented) The structure of claim 105 wherein said surfaces are provided by respective upper and lower plates of a disc.

109. (Cancelled)

110. (Previously Presented) The structure of claim 108 wherein said encoded address information is provided for optical inspection of said at least one of said plurality of surface locations from exteriorly of said structure.

111. (Currently Amended) The structure of claim ~~106-105~~ wherein said at least one first opening for providing access to said space is provided configured to receive the end of a liquid injecting device, and said at least one first opening forms a substantially air-tight seal around said end.

112. (Previously Presented) The structure of claim 105 wherein the structure is a disc which includes upper and lower circular plates, the internal surfaces of which respectively define said upper and lower opposed surfaces.

113. (Currently Amended) The structure of claim 112 ~~wherein a first opening is provided for access to said space from an external location and further comprising at least one second opening located~~ is provided at a peripheral edge of the disc to vent said space.

114. (Currently Amended) The structure of claim ~~112-113~~ wherein the space between the upper and lower plates is subdivided, by one or more dividing walls, to provide a plurality of spaces, and each space being provided with a fluid introduction opening at least one of said first

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openings and a vent opening at least one of said second openings to enable independent access to each space.

115. (Previously Presented) The structure of claim 114 wherein the dividing walls are radially extending.

116. (Previously Presented) The structure of claim 112 wherein at least one of the upper and lower plates forming the structure is transparent to enable optical inspection of the surface locations from outside the structure, and the other of the upper and lower plates includes a reflecting surface.

117. (Previously Presented) The structure of claim 105 arranged to receive one or more inserts.

118. (Previously Presented) The structure of claim 105 wherein the structure is provided as a sector of a disc.

119. (Currently Amended) The structure of claim 118-117 wherein the structure is made of plastic and said one or more inserts is snap-fitted onto the disc.

120. (Previously Presented) The structure of claim 119 wherein the structure and the disc include lock and key portions to allow the structure to be snap-fitted to the disc in a correct orientation only.

121. (Previously Presented) The structure of claim 105 including one or more lenses to improve the optical inspection of said surface locations.

122. (Previously Presented) The structure of claim 121 wherein said one or more lenses are molded into said structure.

123. (Currently Amended) A multi-reaction site ~~dise~~-assay plate structure comprising:
an upper substantially planar, rigid surface and a lower closely spaced opposed
and substantially planar, rigid surface, said upper and lower surfaces defining a space
therebetween, and at least one of said upper and lower surfaces having at least one first
opening for the introduction of a fluid therethrough into said space, the lower surface
having a plurality of separate reaction sites, the reaction sites being treated to increase the
hydrophilicity thereof, and the lower surface being treated to increase the hydrophobicity
of the surface other than at said reaction sites, the spacing between said upper and lower

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surfaces being provided to facilitate the flow of fluid in said space by capillary action of a fluid introduced into said space through said at least one first opening to cover all of the sites; and

encoded information stored in at least one of said upper and lower surfaces so as to be readable by a scanned light beam, said encoded information including address information providing location information as to the part of the ~~disc-assay plate structure~~ being scanned by the light beam.

124. (Cancelled)

125. (Currently Amended) The assay plate structure of claim 124-123 wherein said at least one first opening providing access to said space is configured provided to receive the end of a liquid injecting device, and said at least one first opening forms a substantially air-tight seal around said end.

126. (Previously Presented) The assay plate structure of claim 123 wherein the structure is an optically transparent disc which includes upper and lower circular plates, the internal surfaces of which respectively define said upper and lower opposed surfaces.

127. (Currently Amended) The assay plate structure of claim 126 ~~wherein a further comprising at least one second opening is provided located~~ at a peripheral edge of the disc.

128. (Previously Presented) The assay plate structure of claim 127 wherein the space between the upper and lower plates is subdivided, by one or more dividing walls, to provide a plurality of spaces, each space being provided with ~~a fluid introduction at least one of said first openings and a vent at least one of said second openings~~ to enable each space to be independently accessed.

129. (Previously Presented) The assay plate structure of claim 126 wherein at least one of the upper and lower plates forming the structure are transparent to enable optical inspection of the sites from outside the structure.

130. (Previously Presented) The assay plate structure of claim 129 wherein the other of the upper and lower plates includes a reflecting surface.

131. (Previously Presented) The assay plate structure of claim 126 wherein said encoded address information is digitally encoded.

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132-155. (Cancelled)

156. (New) The assay plate structure of claim 89, wherein the reaction sites comprise wells configured to receive a portion of said fluid.

157. (New) The structure of claim 105, wherein the surface locations bearing a hydrophilic coating comprise wells configured to receive a portion of said fluid.

158. (New) The assay plate structure of claim 123, wherein the reaction sites comprise wells configured to receive a portion of said fluid.

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SUMMARY OF INTERVIEW

Exhibits and/or Demonstrations

None

Identification of Claims Discussed

89-99, 105-108, 110-123 and 125-131

Identification of Prior Art Discussed

Gordon, Croteau, et al., Merkh, et al.

Proposed Amendments

Claim amendments were proposed and discussed during the course of the interview.

Principal Arguments and Other Matters

Applicants argued that the proposed amendments, along with changes discussed during the course of the interview, define patentable subject matter over the prior art of record.

Results of Interview

Agreement was not reached, however the Examiner acknowledged that the proposed amendments to the claims appear to define over the presently applied references of Gordon, Croteau et al., and Merk, et al.